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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHOI, PETER H	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/681,361	BIALEK ET AL.	
	Examiner	Art Unit	
	Peter Choi	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 3, and 5-8 have been canceled. Claims 1, 2, and 4 are pending in the application.

Response to Arguments

2. Applicant's arguments filed December 30, 2005 have been fully considered but they are not persuasive.

It is noted that the applicant did not challenge the Official Notice citation in the first Office Action mailed 6/15/05; therefore, that statement is presented herein after as prior art. Specifically, it has been established that the step of updating the alignment of the business departments' business processes (in response to changes in said business processes), corresponding data requirements (of the plurality of business departments), and changes in the attributes defined for each data set is an old and well known result of data mining.

Applicant is traversing the Official Notice citation that the step of "aligning each of the distributed business departments' business processes and corresponding data requirements to the data structure data sets based on the attributes defined for each data set" is old and well known. The Examiner did not take Official Notice on this step,

instead, directing the Applicant to page 200 of the Everest reference, where it is stated that one of the steps in designing a database is to graphically represent the data and its structure in a way that most naturally models the users' reality. In addition, the Examiner asserts (which is supported by the Everest reference) that a database is a mechanized, shared, formally defined, and centrally controlled collection of data relating to a specific organizational entity, such as a whole organization, or a division (department); thus, a database is designed to graphically represent data (and its structure) that naturally models reality, and is populated with data from a plurality of organizational entities (departments).

Applicant is traversing the Official Notice citation that the step of "updating the alignment in response to changes in the business processes and corresponding data requirements of the plurality of business departments as well as changes in the attributes defined for each data set" is old and well known. Support for this can also be found in the Everest reference.

Revision is the process of changing the logical structure or physical storage structure of a previously defined and created database [Page 416].

When an organization desires (or is forced) to revise an established database, several consequent activities must be taken into account. The first and simplest step is redefinition, to modify the stored database definition. That immediately requires a

conversion of the stored database to bring it into conformance with the revised definition. If only the physical storage structure is changed, database reorganization is required [Page 416].

The restructure conversion process is needed if the logical structure of the database is changed. Next, it is necessary to examine and possibly change each of the processes which act upon the revised database, including user application programs, catalogued queries, stored report definitions, stored transaction definitions with their update processing instructions, profiles of authorized users, and any associated userschemas with their mapping instructions [Pages 416-417].

Redefinition is simply changing the database definition, a conceptually straight-forward process [Page 417].

Restructure is the process of converting the stored database so that it is in conformance with its new definition. The redefinition may involve a change in content (new or deleted), a change in the structure of existing content, or a change in the physical representation of existing content. The revision may take place at any of the levels of mapping and may involve addition, modification, or deletion [Page 417].

Reorganization is considered a special case of restructure wherein the logical structure and content remain constant while the physical storage structure is changed.

Reorganization of the database may be required after a period of use involving numerous insertions and deletions – just like rearranging merchandise on the shelves of a store after a period of heavy activity. The sole purpose of reorganization is improved performance of database processing or improved storage space utilization [Page 417].

Reorganization includes such operations as purging the storage space of logically deleted records, integrating data in overflow areas with the main file, modifying physical pointer mechanisms, creating or destroying indexes, and sorting stored data [Page 417].

The importance of the revision function and the structural evolution of the database cannot be overemphasized. Revision is necessary to accommodate new technology, new application processes, new data, and to improve storage utilization and performance characteristics. All data requirements and processing needs cannot be foreseen. Furthermore, it is only practical to establish the database in stages [Page 418].

First, it is necessary to examine all programs which interact with or map onto the changed portion of the revised database. The redefinition may have changed the characteristics of the mapping between a userschema and the scheme, thus rendering some programs inefficient or inoperative. In some cases it will be sufficient to change the data definition in the userschema, and in still others it may be necessary to change

the data references and procedural logic of the program. In addition, catalogued queries, report definitions, and transaction definitions with their update processing instructions must be examined and possibly changed if they reference the changed portion of the revised database [Pages 420-421].

Revision is the process of changing the structure of a previously established database. Revision constitutes the ongoing or incremental re-establishment or structural evolution of a database. Redefinition may lead to the necessity to restructure the stored data so that it conforms to its new definition [Page 422].

Reorganization is a special case of revision wherein the physical storage structure is changed while the logical database structure remains constant. The revision process is really not complete until interacting userschemas and process specifications have also been examined and changed in necessary, and people using the revised database have been notified and retrained [Page 422].

Thus, from the passages cited above, Everest supports the Examiner's assertion that the step of updating the alignment of data (revision, redefinition, restructuring, reorganization) in response to changes in business processes (organization desires or is forced to revise an established database due to new technology, new application processes, new data, revised definition, changes in the mapping between a userschema and the scheme) is old and well known.

The Examiner has also provided additional passages from the Everest reference that are pertinent to the limitations of the claimed invention.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

- In Figure 2:
  - Reference characters "188a" and "188b" have both been used to designate the non-value-added activity occurring within the business continuum. According to the paragraph 14 of the specification, reference characters 118a and 118b should be used.
  - Reference character 126 has been used to designate Part Invoicing. According to paragraph 14 of the specification, the reference character is used to designate Vehicle Pricing.
  - Reference character 128 has been used to designate Part Pricing. According to paragraph 14 of the specification, the reference character is used to designate Vehicle Invoicing.
- In Figure 7:

- Reference character 194 has been used to designate both the Accounting Department and the Receiving Department. According to the specification, the Receiving Department should use reference character 198.

- In Figure 9:
  - Reference character 248 has been used to designate the Venn diagram. According to paragraph 35 of the specification, reference character 218 should be used.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because:

- In Figure 6:
  - Reference character 186 is not mentioned in the specification.
- In Figure 10:
  - Reference character 220 is designated to be the Venn diagram in the specification, but does not appear in the figure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the

changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon Everest's "Database Management: Objectives, System Functions, and Administration" (published in 1986) and further in view of Roychoudhury et al.'s "A Rule-Based Data Standardizer for Enterprise Data Bases" (published in 1997) and MacPhail (U.S Patent #5,107,419).

As per claim 1, Everest teaches a business method for reducing non-value-added data activity across a plurality of distributed business departments, the method comprising:

populating a data structure **(database)** with data sets generated at each of the plurality of distributed business departments **(collecting actual data and storing it)** [Page 198];

defining access **(isolation, access control, encryption, monitoring and audit trail techniques)**, ownership, management, data source, data control **(data definition language {DDL}, which includes the definition of data items and repeating groups in a multipath hierarchical structure, giving each a unique name, a unique number, and defining the type and size of data items)**, and data dependencies **(exhaustibility)** attributes for each data set within the data structure [Pages 52, 210, 212, and 226-227]; and

aligning each of the distributed business departments' business processes and corresponding data requirements to the data structure data sets based on the attributes defined for each data set **(represent the data and its structure in a way that most naturally models the users' reality)** [Page 200].

Although not taught by Everest, Roychoudhury et al. teaches the step of eliminating data gaps, duplications, and inconsistencies within the data structure. Roychoudhury et al. teaches that the use and storage of incorrect, inaccurate, old, and redundant data provides no beneficial insights, as it prevents decision support, and undermines results. [Introduction – Pages 1-2]. Both Everest and Roychoudhury et al. are directed to the analogous art of database file management; thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings

of Everest to include the streamlining of data as taught by Roychoudhury et al. since efficient, accurate and up-to-date data would enable data mining and data warehousing to be performed, whereas the inclusion of incorrect, inaccurate, old, and redundant data adds to search time, wastes storage space, and any resulting analysis performed on such data would lack validity or usefulness.

Although not explicitly taught by Everest and Roychoudhury et al., MacPhail teaches the step of defining a retention period attribute **(ownership expiration date; retention and deletion selection criteria)** for a data set wherein the data set is deleted from the data structure upon expiration of the defined retention period **(minimum and maximum period that the document must be maintained by the system; the implication is that after the stated period, the document may be deleted from the system)** [Figures 5, 10-12, and 13c & d; Column 3, lines 17-33, and Columns 7-10].

As stated above, both Everest and Roychoudhury et al. are directed to the analogous art of database file management. MacPhail is also directed to the art of managing electronic documents stored in an interactive information handling system (database file management). Thus, it would have been obvious to modify the combined teachings of Everest and Roychoudhury et al. to include a retention period attribute, because the resulting invention would constantly delete old and expired records (dates older than the retention period) within the database, making more space is available for

new records that need to be added, ensuring that the database size remains constant, and reducing the costly fees associated with maintaining excessively large databases.

Official Notice is taken that the step of updating the alignment of the business departments' business processes (in response to changes in said business processes), corresponding data requirements (of the plurality of business departments), and changes in the attributes defined for each data set is an old and well known result of data mining, as an analysis of the data from a plurality of different dimensions and angles allows the user to categorize data (into clusters), and summarize new relationships (or update old relationships) between data. As the business world is dynamically changing, the usefulness and validity of data and the relationships between data must be updated to reflect changes in business practices. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Everest, Roychoudhury et al. and MacPhail to include the step of updating the alignment of business processes, corresponding data requirements and data set attributes as it may allow the reality of the user to be accurately portrayed, and would validate the findings of further analysis (data mining or any other analytical methods).

As per claim 2, Everest teaches the method of claim 1 additional comprising compiling a glossary **(information system resource catalogue/data dictionary)** summarizing the data sets and corresponding attributes wherein the glossary is provided to the plurality of distributed business departments to facilitate the step of

aligning each of the distributed business departments' business processes and corresponding data requirements to the data structure [Pages 601-605].

As per claim 4, Everest teaches the method of claim 1 additionally comprising the steps of defining an update frequency **(frequency of generation and change)** for a data set and updating content and attributes for the data set according to the defined update frequency [Page 603].

7. Claims 5, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everest's "Database Management: Objectives, System Functions, and Administration" (published in 1986) and MacPhail (U.S Patent #5,107,419).

As per claim 5, Everest teaches a data structure embodied within a computer readable medium, the data structure comprising a plurality of data sets wherein each data set possesses the following attributes:

(a) ownership for defining a name of a person or organization who owns content embodied within the data set [Page 603];

(b) membership for defining data items **(purpose of the data item and why it is kept)** which make up the data set [Page 603];

(c) codification for defining terminology qualifying the data items **(interpretation rules and guidelines)** which make up the data set [Page 603];

(d) source for defining the source **(listing of users and the data items owned/controlled by each user)** of the data set [Page 605];

(e) management for defining a person or entity responsible for managing **(maintenance and integrity of the data item values)** the data set [Page 603];

(f) access **(access control)** for defining which business entities may access the data set [Pages 52, 506-509]; and

(g) control metrics for defining an integrity protocol **(isolation, encryption techniques)** for the data set [Page 52].

Although not explicitly taught by Everest, MacPhail teaches:

(h) a retention period **(ownership expiration date; retention and deletion selection criteria; expiration date calculation rules)** for defining the amount of time that the data set is to be retained within the data structure **(minimum and maximum period that the document must be maintained by the system; the implication is that after the stated period, the document may be deleted from the system)** [Figures 5, 10-12, and 13c &d; Column 3, lines 17-33, and Columns 7-10].

As stated above, Everest is directed to the analogous art of database file management. MacPhail is also directed to the art of managing electronic documents stored in an interactive information handling system (database file management). Thus, it would have been obvious to modify the combined teachings of Everest and

Roychoudhury et al. to include a retention period attribute, because the resulting invention would constantly delete old and expired records (dates older than the retention period) within the database, making more space is available for new records that need to be added, ensuring that the database size remains constant, and reducing the costly fees associated with maintaining excessively large databases.

As per claim 7, Everest teaches the data structure of claim 5 wherein each data set additionally possesses a dependents attribute for defining distributed business departments who require data items within the data set to carry out their respective business processes **(relationship to other data in the database, relationship to other entities in the system)** [Page 603].

As per claim 8, Everest teaches the data structure of claim 7 wherein each data set additionally possesses an update frequency **(frequency of generation and change)** attribute for defining the rate at which the data set is to be updated [Page 603].

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Choi whose telephone number is (571) 272 6971. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Choi
Examiner
Art Unit 3623

PC

March 14, 2006

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